

Supplementary Table 1. clinical evidence of overnight closed-loop system (single-hormone) in type 1 diabetes mellitus

Year	Group	CGM	Pump	System	Design	No.	Age, yr	Setting	Duration	Intervention	Control	Outcome (intervention vs. control)
2010 [21]	CamDiab Navigator	FreeStyle	Deltec	NA	RCT, crossover	19	5-18	Hospital	1 night	OCL	CSII	ON TIR 70-145: 60% vs. 40%, $P<0.01$ ON TBR ≤ 70 : 2.1% vs. 4.1%, $P=0.03$
2011 [22]	CamDiab Navigator	FreeStyle	Deltec	NA	RCT, crossover	24	18-65	Hospital	1 night	OCL	CSII	ON TIR 70-145: 22% better in OCL, $P<0.01$ ON TBR ≤ 70 : 3% better OCL, $P=0.04$
2012 [64]	Medtronic Enlite	Medtronic	Paradigm Veo	PGCS	Single arm	8	12-25	Hospital	2 nights	OCL	CSII	ON TIR 70-145: 84.5% vs. 46.7%, $P<0.01$
2012 [65]	DreaMed Enlite	Medtronic	Paradigm Veo	MD-Logic	Single arm	7	>14	Hospital	2 nights	OCL	SAP	ON TIR 63-140: 92% vs. 73%, $P=0.03$ ON TBR <63: 0% vs. 0%, $P=NA$
2013 [25]	DreaMed Enlite	Medtronic	Paradigm Veo	MD-Logic	RCT, crossover	56	10-18	Diabetes Camp	2 nights	OCL	SAP	ON hypoglycemia event (<63 mg/dL): 7 vs. 22, $P<0.01$ ON median glucose: 126.4 mg/dL vs. 140.4 mg/dL
2014 [66]	TypeZero	Dexcom G4t:slim	DiAs	DiAs	RCT, crossover	20	10-35	Diabetes Camp	5-6 nights	OCL	SAP	ON TIR 70-150: 62% vs. 55%, $P=0.23$ (intention-to-treat) ON TIR 70-150: 73% vs. 52%, $P=0.04$ (per-protocol) ON TBR <50: less in intervention group, $P=0.02$
2014 [67]	DreaMed Enlite	Medtronic	Paradigm Veo	MD-Logic	RCT, crossover	24	12-43	Home	6 weeks	OCL	SAP	ON TIR 70-140: 47.4% vs. 36.4%, $P<0.01$ ON TBR <70: 2.5% vs. 5.2%, $P=0.02$; <50: 0.3% vs. 0.6%, $P=0.12$
2014 [68]	CamDiab Navigator	FreeStyle	Dana R	NA	RCT, crossover	16	12-18	Home	3 weeks	OCL	SAP	ON TIR 70-145: 64% vs. 47%, $P<0.01$ ON TBR <54: 0.1% vs. 0.0%, $P=0.07$
2014 [26]	CamDiab Navigator	FreeStyle	Dana R	NA	RCT, crossover	24	≥ 18	Home	4 weeks	OCL	SAP	ON TIR 70-145: 52.6% vs. 39.1%, $P<0.01$ ON TBR <50: 0.2% vs. 0.2%, $P=0.63$
2015 [28]	CamDiab Navigator	FreeStyle	Dana R	NA	RCT, crossover	25 ^a	6-18	Home	12 weeks	OCL	SAP	ON TIR 70-145: 59.7% vs. 34.4%, $P<0.01$ ON TBR <50: 0.3% vs. 0.6%, $P=0.31$
2015 [27]	TypeZero	Dexcom G4Accu-Chek Spirit Combo	DiAs	DiAs	RCT, crossover	32	18-69	Home	2 months	OCL +dinner	SAP	8PM-8AM TIR 70-180: 66.7% vs. 58.1%, $P<0.01$ 8PM-8AM TBR <50: 0.1% vs. 0.3%, $P<0.01$
2017 [69]	DreaMed Enlite	Medtronic	Paradigm Veo	MD-Logic	RCT, crossover	75	15-65	Home	4 nights	OCL	SAP	ON TIR 90-140: 75% vs. 50%, $P<0.01$ ON TBR <70: 2.07% vs. 2.6%, $P<0.01$

The unit of TIR and TBR target is mg/dL.

CGM, continuous glucose monitoring system; NA, not available; RCT, randomized control trial; OCL, overnight closed-loop system; CSII, continuous subcutaneous insulin infusion; ON, overnight; TIR, time in range; TBR, time below range; SAP, sensor augmented pump.

^aHybrid closed-loop system is used for adult group in the same study.